

University of Bahrain
College of Information Technology
Department of Computer Science
Semester I, 2015-2016
ITCS315 - Human Computer Interaction

Midterm Exam

FORM B

Date: 2/12/2015

Time: 04:00 PM - 5:15 PM

STUDENT NAME	
STUDENT ID #	
SECTION #	

NOTE: THERE ARE **(7) PAGES** IN THIS TEST
WRITE ONLY ONE SOLUTION FOR EACH QUESTION

QUESTION #	MARKS		COMMENTS
1	10	7	
2	20	18	
3	20	19	
TOTAL	50	44	

7

Question 1 [10 Points]

Circle the letter of the best correct choice in each of the following:

1. The Shopping Cart is an example of:
 - a. conceptual Model.
 - b. interface Metaphor.
 - ☒ c. mental Model.
 - d. cognitive process.

2. Mental models can be constructed from :
 - a. the conceptual model.
 - b. user needs.
 - c. discussions with users.
 - ☒ d. perception, imagination, or comprehension of a situation.

3. Frustrating interface :
 - a. provides informative and fun reassuring feedback.
 - b. best to be used by technophobes.
 - ☒ c. caused by error messages that are vague.
 - d. makes users feel more at ease and comfortable.

4. Virtual Reality
 - ☒ a. aims to enhance decision-making and explanation of phenomena.
 - ☐ b. uses camera recognition, sensor and computer vision techniques.
 - c. provides the illusion of participation in a synthetic environment rather than external observation.
 - d. is displayed on a web page that is linked to a database which allows reports to be constantly updated.

5. Information visualization
 - a. provides the illusion of participation in a synthetic environment rather than external observation.
 - ☐ b. uses camera recognition, sensor and computer vision techniques.
 - ☒ c. is displayed on a web page that is linked to a database which allows reports to be constantly updated.
 - d. aims to enhance decision-making and explanation of phenomena.

6. Expressive interface :

- a. best to be used by technophobes.
- ☒ b. provides informative and fun reassuring feedback.
- c. makes users feel more at ease and comfortable.
- d. caused by error messages that are vague.

7. Air-based gesture

- ☒ a. uses camera recognition, sensor and computer vision techniques.
- b. provides the illusion of participation in a synthetic environment rather than external observation.
- c. aims to enhance decision-making and explanation of phenomena.
- d. is displayed on a web page that is linked to a database which allows reports to be constantly updated.

8. What is meant by problem space in interaction design?

- a. A situation that is difficult to deal with.
- b. A detailed description of undesirable situations.
- ☒ c. A representation of a problem that contains knowledge of the initial state and the goal state.
- d. The amount of challenging cases to deal with.

9. Dashboard

- a. provides the illusion of participation in a synthetic environment rather than external observation.
- b. aims to enhance decision-making and explanation of phenomena.
- ☒ c. is displayed on a web page that is linked to a database which allows reports to be constantly updated.
- d. uses camera recognition, sensor and computer vision techniques.

10. Clarifying peoples' assumptions and claims is :

- a. preferably to be separately done by each member in the team to avoid conflicting problems.
- ☒ b. a team work process to view multiple perspectives on the problem space.
- c. not part of the interaction design process.
- d. very important to be done at the evaluation phase.

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Question 2 [20 Points]

[1] [5 points] List the core interaction types for informing the development of a conceptual model. Then **explain only one** interaction type and **give** an example for this interaction type.

1. exploring
2. manipulating
3. conversing
4. instructing

Instructing: commands or list of instructions prompt to the computer for do some tasks, e.g. copy, paste. for example: Its used in command based. Its effecient and suitable for file management and repetative tasks.

[2] [5 points] **Explain** what is 7 ± 2 model and **how can** it be used to increase the capacity of the short-term memory. Then answer, **can** we apply 7 ± 2 model in designing all interfaces and **why**?

The Short-term memory capacity is in average 7 ± 2 digits (things) but it can be increase using grouping. for example: memorising a number of 7 digit in this form 1289420 more difficult than this form 128 942 0.

This model can be apply in some cases that have small numbers to be shown to user, such as: telephone number but its better to use other techniques to present information that not need recall, just recognize. for example:

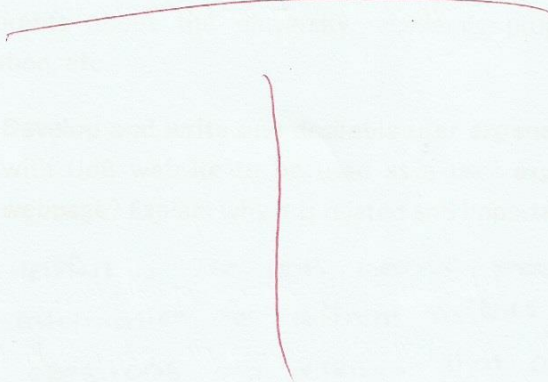
GUI techniques, listing, search operations. This is better because it's not need to use short-term memory

[3] [6 points] **Explain** what is Norman Emotional design model and **how** attractive things work better in Norman Emotional design model.

4

Attractive System work independently from user thought but each of them are important related. Also, attractive systems make use feel more confort and happy.

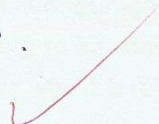
When a person be happy then he can be more imaginative and more creative. So attractive things work better because its make user work harder while he is in good mood and good emotions.



[4] [2 points] **Specify** one case that cause frustration in interfaces.

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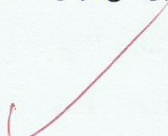
when the system crash or not work, the user will feel frustract and anger.



[5] [2 points] **Discuss** one technique that can be used to change people behaviour.

2

Pickatsho device can change children behaviour to good when the child excersice frequently with this game.



- [3] [3 points] **Give an example** of a claim that you will make in order to understand the problem space about "Making a Shopping List Application". **Specify** if it is reasonable or not and **indicate** the reason.

(3) Making a shopping list application is used by women not reasonable, because men also can use this type of applications or women can send her shopping list to a man, to buy it for her. through this application ✓

- [4] [6 points] As a student in University of Bahrain (UoB), you must have used UoB website. The University of Bahrain (UoB) Web Page is a web page that provides useful information to students, academic and administrative staff, new students, and parents about the university, academic programs, faculty, staff, library, registration, etc.

- a. **Develop and write one** desirable user experience related to the interaction with UoB website to be used as a user experience goal to evaluate the webpage? Explain why it is related and important then provide an example.

Helpful : The UoB website should provide all needed information for different visitors. Also, it should provide clear operations and services that consider as important to the user.

UoB website should provide clear academic calendar for students, staff and other students. ✓

- b. **Develop and write one** undesirable user experience related to the interaction with UoB website to be considered as a user experience problem (goal) to be avoided. Explain why it is related and then provide an example.

(2) enjoyable : The UoB website not need to be enjoy for visitor because this type of website often used to get some important information quickly and also, its formal website.

for example: no need to add animations in the background and not efficient to but important information in a video.

Question 3 [20 Points]

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[1] [8 points] In the class, we have discussed and examined how the interaction with a smartphone has been designed, **identify** the four most important usability goals related to the interaction design of a smartphone, then **develop and write one question** for each usability goal to be used to evaluate the usability goal.

- ⑧ 1. effective : Is Smart phone capable to do calls and send messages ? ✓
2. easy to use : Is smart Phone used without need a help to explore its services and applications ? ✓
3. Safety : Is Smart phone safe against fire ? ✓
4. Utility : Is Smart Phone Provide support functions to do user task such as : search and favourite people number list. ✓

③ [2] [3 points] **Give one example** of an assumption that you will make in order to understand the problem space about "Making Shopping List Application". **Specify** if your assumption is reasonable or not and **indicate** the reason.

Making Shopping List application user would like to make color notes and change style of thier notes such as : font > background.
not reasonable, because making Shopping list is quick task and not share to others, so its don't need style change. ✓